

CLAIMS

- 1 1. A navigation system for use in a motor vehicle, comprising:
- 2 a position sensor that that senses the geographic position of said navigation
- 3 system and provides a first navigation system position signal indicative thereof;
- 4 a data bus;
- 5 a navigation computing unit that receives said first navigation system position
- 6 signal, and transmits onto said data bus (i) a first position signal indicative of the position
- 7 of a trip starting location, (ii) a second position signal indicative of a trip destination
- 8 location, and (iii) said first navigation system position signal;
- 9 a monitor unit that includes
- 10 • a memory device that includes map data;
- 11 • a monitor computing unit that receives from said data bus (i) said first
- 12 position signal, (ii) said second position signal and (iii) said received
- 13 navigation system position signal, and accesses said memory device to
- 14 generate initial image data including map data indicative of the trip
- 15 starting location, the trip destination and the current position of the
- 16 navigation system; and
- 17 • a display device responsive to said image data, to display an initial image
- 18 indicative of said image data;
- 19 wherein said navigation computing unit receives a second navigation position
- 20 signal indicative of a new position of said navigation system and transmits said second
- 21 navigation position signal over said data bus to said monitor computing unit, which
- 22 generates revised image data including map data indicative of the trip starting location,
- 23 the trip destination and the updated position of the navigation system, which is provided

24 for display on said display device.

1 2. The navigation system of claim 1, wherein said position sensor comprises a
2 global position satellite (GPS) receiver.

1 3. The navigation system of claim 2, wherein said first position signal and said
2 second position signal each include longitude and latitude position data.

1 4. The navigation system of claim 1, wherein said navigation computing unit also
2 transmits to said monitor computing unit via said data bus (iv) an instruction that a place
3 symbol belongs at the map location associated with the trip starting location, and (v) an
4 instruction that a place symbol belongs at the map location associated with the trip
5 destination location.

1 5. The navigation system of claim 4, wherein said navigation computing unit also
2 transmits to
3 said monitor computing unit via said data bus (vi) an instruction that a throughway runs
4 between the trip starting location and the trip destination location.

1 6. The navigation system of claim 5, wherein said first and second position signals
2 each include geographic data formatted in accordance with the WGS 84 Standard.

1 7. A motor vehicle navigation system, comprising:
2 a position sensor that that senses the geographical position of said navigation
3 system and provides a first navigation system position signal indicative thereof;
4 a data bus;
5 a navigation computing unit that receives said first navigation system position
6 signal, and transmits onto said data bus (i) a first position signal indicative of the position

7 of a trip starting location, (ii) a second position signal indicative of a trip destination
8 location, and (iii) said received navigation system position signal;
9 a road map memory device that includes map data;
10 means responsive to (i) said first position signal, (ii) said second position signal
11 and (iii) said received navigation system position signal and said map data, for generating
12 initial image data including map data indicative of the trip starting location, the trip
13 destination and the current position of the navigation system; and
14 a display that displays an initial image indicative of said initial image data.

1 8. The motor vehicle navigation system of claim 7, wherein said navigation
2 computing unit receives a second navigation position signal indicative of a new position
3 of said navigation system and transmits said second navigation position signal over said
4 data bus to said monitor computing unit, which generates revised image data including
5 map data indicative of the trip starting location, the trip destination and the updated
6 position of the navigation system, which is provided for display on said display.

1 9. The motor vehicle navigation system of claim 8, wherein said position sensor
2 comprises a global position satellite (GPS) receiver.

1 10. The motor vehicle navigation system of claim 9, wherein said data bus comprises
2 a Media Oriented Synchronous Transfer (MOST) bus.

1 11. The motor vehicle navigation system of claim 9, wherein said data bus comprises
2 a Multi Media Link (MML) bus.

1 12. The motor vehicle navigation system of claim 7, wherein said navigation
2 computing unit computes a travel route between the trip starting location and the trip

3 destination, and transmits a signal indicative of said travel route to said means for
4 generating over said data bus.

1 13. A method of generating an image for display by a motor vehicle navigation
2 system that includes a navigation computing unit, a data bus and a monitor unit,
3 comprising:

4 sensing the geographical position of the navigation system and providing a first
5 navigation system position signal indicative thereof;

6 transmitting onto said data bus from the navigation computing unit (i) a first
7 position signal indicative of the position of a trip starting location, (ii) a second position
8 signal indicative of a trip destination location, and (iii) said first navigation system
9 position signal;

10 receiving at the monitor unit said first position signal, said second position, and
11 said first navigation system position signal;

12 generating, at the monitor unit, initial image data including map data indicative of
13 the trip starting location, the trip destination location and the current position of the
14 navigation system; and

15 displaying an initial image indicative of said initial image data.